REMARKS

On an initial note, Applicants wish to thank the Examiner for indicating that Claims 37 and 41 include allowable subject matter and would be allowed if rewritten in independent form including limitations of the base claim and any intervening claims. Claims 32-56 are pending. Claims 32-36, 38-40, and 42-56 are currently rejected. Applicants have amended Claims 32, 42, 44, and 46. Support for the amendments to Claims 32 and 46, can be found, for example, in Claim 32 itself, in para. [0023] of the published application, and throughout. Support for the amendments to Claim 42 can be found, for example, in Claim 32, and throughout. Support for the amendments to Claim 44 can be found, for example, in the claim itself.

Applicants submit that these amendments and corrections herein are made without prejudice as to patentability, including the doctrine of equivalents, and not to overcome prior art, and that no new matter has been added. The Commissioner is authorized to charge any fees, or credit any refunds, to the deposit account of Bracewell & Giuliani, LLP, deposit account no. 50-0259, attorney docket no. 064743.000007.

Claimed Embodiments of Applicants' Invention

Embodiments of the present claimed invention relate to an apparatus and methods for controlling water level in a pool. According to a claimed embodiment of the present claimed invention, the apparatus includes a sensor assembly 21 and a receiving assembly. The sensor assembly 21 primarily includes a water level sensor 28 (probes 30), a processor 48, a wave filter timer 61, and a transmitter 50. The sensor assembly 21 also includes a tilt-type switch 46 which turns on or off/resets sensor 28 by tilting the housing 29 of the sensor 28. The wave filter timer 61 and tilt switch 46, individually, can be used to conserve battery/power source life. The receiving assembly primarily includes a receiver 22, an overfill timer 91, and a solenoid valve 23 and is positioned to control water flow into the pool 10.

In operation, according to an embodiment of the claimed invention, the sensor assembly 21 is tilted to be in an on position and, for example, is releasably wedged between upper and lower sides of throat 24 of pool 10 (FIG. 2), at least partially immersed in the pool's water. A processor 48 detects if the sensor 28 senses low water, and a wave filter timer 61 turns on for a

selected interval when the processor detects low water. To help overcome the effects of waves, the processor 48 can delay sending the low water signal until the end of the selected interval. If a low water indication is detected continuously during the selected interval, at the end of the selected interval, the processor 48 will cause the transmitter 50 to send to a receiver 22 a momentary signal indicating low water signal to open the water supply valve 23 to allow water to flow into the pool. This can be accomplished according to a continuous monitoring-transmitting loop until the pool is full or slightly overfilled. To help prevent excessive overfilling of the pool 10, an overfill counter/timer 91 associated with the receiver 22 turns on/counts for a selected interval when the receiver 22 receives the low water signal. To help ensure the pool is adequately filled, the receiver 22 can reset the overfill counter 91 prior to reaching the selected/predetermined count each time that the receiver receives a low water signal. If the overfill counter 91 has not been reset by the time the selected/predetermined count is reached, the supply valve 23 will be closed upon reaching the selected/predetermined count.

The Cited Documents-- Cazden, Martin, Maxhimer, and Mogab

Cazden discloses a float-operated swimming pool level control system that utilizes the swimming pool water level to activate mechanical switches (66a, 66b) to maintain the swimming pool water level at a predetermined level. *See* Cazden, FIG. 9 and col. 2, lines 32-56. Particularly, Cazden discloses a sensor device having an outer housing (10) including suction cups (14) for attaching the sensor device to the inner sidewall (123) of a swimming pool. *See* Cazden, col. 3, lines 42-47, col. 5, lines 32-36, and abstract. As perhaps best shown in Cazden, FIGS. 6 and 9A, a water level sensor (32) is positioned to "float" within housing (10) such that water enters liquid passageway (22) to "float" the water level sensor (32) to cause contact levers (76a, 76b) of switches (66a, 66b) to engage reference probe shaft (28) extending into the sensor outer wall (62) when the water level is either too high or too low, respectively. *See* Cazden, col. 4, lines 50-66. Electrical switch activation of either of the switches (66a, 66b) thereby results in transmission of a radiofrequency signal (135) to either open or close valve assembly (105). *See* Cazden, col. 5, lines 17-21. That is, switch (66a) is engaged when the water level is low resulting in transmitter circuit (72) transmitting a radio-frequency signal (135) to receiver (88) which activates solenoid (101) to open valve assembly (105) to begin filling the pool. *See*

Cazden, col. 5, lines 38-49, and FIGS. 9 and 9A. Once full, switch (66b) is engaged which results in transmitter circuit (72) transmitting *another* radio-frequency signal (135) to receiver (88) to activate solenoid (101), this time, to close valve assembly (105) to shut off the water. *See* Cazden, col. 5, lines 50-65, and FIGS. 9 and 9A.

Cazden also discloses an alternative embodiment utilizing a magnet (153) in place of probe shaft (28), and a pair of magnetic reed switches (171) positioned in place of and essentially performing the same function as switches (66a, 66b). *See* Cazden, FIGS. 10-12 and col. 6, lines 66 to col. 7, line 5. In operation, water level controller (181) is first attached to the inner sidewall (123) of the swimming pool (125), allowing the sealed sensor circuit housing (161) (FIG. 10) to float within the outer housing (150) relative to the magnet (153). *See* Cazden, col. 7, lines 16-23, and FIG. 12. As the water level changes, the magnetic field of the magnet (153) actuates either the high-water level or low-water level magnetic reed switches (171). *See* Cazden, col. 7, lines 29-35. An aperture [constricted air vent] (155) is provided in the outer housing (150) to dampen or slow movement of the sensor circuit housing (161). *See* Cazden, col. 6, lines 56-59, and col. 7, lines 23-28. That is, although its function is not described, one skilled in the art would recognize that the dampening action comes mechanically by restricting the airflow movement in and out of the outer housing (150), dampening movement of the sensor circuit housing (161) within the outer housing (150).

Martin discloses a nightlight (1) for a toilet seat (3) which includes a mercury switch which turns on/off a toilet seat light (6) upon raising/lowering the toilet seat (3). *See* Martin, FIG. 1.

Maxhimer discloses a float-operated swimming pool water level control apparatus, but which uses a "wired" rather than "wireless" solution to its problem. Particularly, Maxhimer discloses a water level detection means (control apparatus (20) and cylinder (32)), disposed remotely from the swimming pool (4). Maxhimer, col. 3, lines 40-41. The cylinder (32) includes a means, e.g., float (38), to sever an optical pathway between an LED (30) and a corresponding photodetector (34) in order to detect when the water level is less than the preferred water level. *See* Maxhimer, col. 3, lines 36-39, and col. 4, lines 63-68. The cylinder (32) is provided water through a tube (18) extending from gutter (6) and extending through the

outer wall surrounding gutter (6) and the surrounding soil (2). *See* Maxhimer, col. 3, lines 42-53, and FIG. 2.

Mogab discloses a water regulator apparatus (10) including a transmitting assembly (14) housed in a housing (16) directly attached underneath a skimmer cover (12). Mogab, col. 4, line 66 to col. 5, line 2 and FIG. 1. An upper level sensor (38) and a lower level sensor (40) extend downwardly from the housing (16). *See* Mogab, FIG. 1. In operation, when the water level in the pool (2) drops below the low level sensor (40), transmitting microcontroller (24) commands transmitter (26) to send a radio transmission to be received by receiver (44) which sends a signal to receiving microcontroller (46) which causes a water fill valve means (48) to supply water to the pool (2). *See* Mogab, col. 6, lines 27-37. Once the water level has reached the upper level sensor (38), the transmission from transmitter (26) is terminated. *See* Mogab, col. 6, lines 39-41. In response to termination of the transmission from transmitter (26), receiver (44) in turn stops sending its own signal to the receiving microcontroller (46). *See* Mogab, col. 6, lines 39-43. In response to termination of receipt of the signal from receiver (44), microcontroller (46) deactivates the water fill valve (48). *See* Mogab, col. 6, lines 39-44.

Claims 32-36, 38-40, and 42-56 are Not Anticipated and are Nonobvious.

The Examiner rejected Claims 38-40, 45, 46, 48-50, 52, 53, 55, and 56 under 35 U.S.C. §103(a) as being unpatentable over Cazden, US Patent No. 6,276,200 (hereinafter "Cazden"); Claims 32-36, 47, and 51 under 35 USC §103(a) as being unpatentable over Cazden in view of Martin et al., U.S. Patent No. 5,664,867 (hereinafter "Martin"); Claims 42, 43, 45 and 54 under 35 U.S.C. §102(b) as being anticipated by Maxhimer, US Patent No. 4,445,238 (hereinafter "Maxhimer"); and Claim 44 under 35 U.S.C. §103(a) as being unpatentable over Maxhimer in view of Mogab et al., U.S. Patent No. 5,878,447 (hereinafter "Mogab"). The Applicants respectfully traverse the rejection.

Claims 38-40, 45, 46, 48-50, 52, 53, 55, and 56 are not Obvious in view of Cazden

The Examiner rejected Claims 38-40, 45, 46, 48-50, 52, 53, 55, and 56 under 35 U.S.C. §103(a) as being unpatentable over Cazden. Of these, Claims 38, 45, and 55 are independent.

Applicants respectfully submit that Cazden fails to disclose, teach, or suggest all substantial elements of any of the claimed embodiments of the invention.

For example, as a minimum, with respect to Independent Claims 38, 45, and 55, Cazden does not disclose, teach, or suggest, or set forth a wave filter timer (e.g., timer 61, Application FIG. 6) *electrically connected with a processor* (e.g., microprocessor 48, Application FIG. 6), as featured in Independent Claim 38; or a *processor* delaying transmission of a momentary signal for a preselected time period, as featured in Independent Claims 45 and 55, or delaying for a preselected interval, as featured in dependent Claim 49. The dampening action (identified by the Examiner as being disclosed in Cazden, col. 7, lines 26-28), is provided mechanically via "air-vent" aperture (155) in outer casement (150) by restricting the air (and thus, water) in and out of the outer casement (150), slowing vertical movement of the sensor circuit casement (161) within the outer casement (150), effectively dampening "momentary fluctuations" in the liquid level within the casement (150). That is, the dampening aperture (155) stabilizes the liquid level within the outer casement (150), and thus, reduces the likelihood of engagement of one of the reed switches (171) due to a momentary fluctuation of the pool water level adjacent the casement (150). Notably, this dampening action *prevents* detection of a low or a high water condition caused by momentary fluctuations. This prevention function, caused by the dampening aperture (155)-floating circuit (163) combination, is important to Cazden because Cazden teaches providing immediate generation of either an activation or deactivation signal in response to magnetic engagement of the reed switches due to a water level change. *See* col. 7, lines 30-43. Although providing a general function arguably somewhat similar to that of a wave filter timer (set with a very short time delay), the dampening aperture (155) in cooperation with floating circuit (163) is not an equivalent of a wave filter timer for obviousness purposes. To be an equivalent, it must be recognized in the art as an equivalent, i.e., performing substantially the same function as the claimed wave filter timer in substantially the same way to achieve substantially the same result. *See* MPEP 2144.06 and MPEP 2186. This dampening aperture (155)-floating circuit (163) combination is *not* a recognized equivalent of electronic timer, and it does *not* perform substantially the same function in substantially the same way to achieve substantially the same result. Instead, the dampening aperture (155)-floating circuit (163) combination performs a marginally similar function in a substantially *different* way.

Independent Claims 38, 45, and 55 (and dependent Claim 49) simply require no such mechanical feature. Nor would such mechanical feature even be applicable to these embodiments of Applicants' claimed invention because Applicants' claimed embodiments do not utilize a flotation device. In fact, Cazden effectively *teaches away* from using an overfill timer in favor of utilizing the dampening aperture (155)-floating circuit (163) combination along with the reed switches 171-magnet (153) combination (FIG. 10), or contact switch (66a,b)-contact lever (76a,b) combination (FIG. 9A). *See* col. 7, lines 30-36 (describing activation of reed switches (171) as resulting in transmission of an activation signal), and col. 5, lines 4-7 (describing switches (66a,b) as being wired directly to transmitter circuit (72). Accordingly, Applicants respectfully submit that Cazden does not teach a wave filter timer as featured in the claims.

Still further, Claim 38 features a wave filter timer *within* (part of) the processor. Even assuming hypothetically that Cazden includes a processor, rather than direct connection of its switches/sensors, etc., the Cazden dampening aperture (155)-floating circuit (163) combination is *not* located within Cazden's processor. Nor could it be, (as the outer casement (150) through which dampening aperture (155) extends completely encloses sensor circuit housing (161) which completely contains sensor circuit (163). Thus, this is a significant structural difference not disclosed, taught, or suggested. Claims 45 and 55, at least in part, feature a *processor* delaying transmission of a low water signal for a preselected time period *after* detecting low water. The Cazden dampening aperture (155)-floating circuit (163) combination *prevents* detection of low water due to momentary fluctuations in liquid level. Thus, this is a significant structural difference not disclosed, taught, or suggested. Similarly, dependent Claim 49 features delaying for a predetermined interval before supplying power from the processor to the transmitter...when [(*after*)] the processor detects low water in the pool. Again, this is a significant structural difference over that of merely slowing the entry of water into the casement (150) in order to *prevent* detection of low water caused by a momentary fluctuation in the water level.

Thus, Independent Claims 38, 45, and 55 (and dependent Claim 49), have been shown to be novel, nonobvious and patentable over Cazden. Dependent Claims 39-40, 46, 48-50, 53, and 56, have, therefore, also been shown to be allowable because their corresponding independent claims have been shown to be novel and non-obvious. Nevertheless, the dependent claims include independent novelty and are nonobvious.

For example, regarding dependent Claims 39, 50, and 52, as a minimum, Cazden does not disclose, teach, or suggest, or set forth a disclosure with respect to a circuit structure configured such that a power input of the transmitter is connected to an output of the processor so that the transmitter is supplied with power *only* when the processor directs the transmitter to send the *low* water signal, as featured in dependent Claims 39, 50, and 52. First, it is clear that this could not be the case as Cazden explicitly states that activation of the high-water switch results in generation of a radio frequency signal (135). Cazden, col. 5, lines 53-59. Further, there is no suggestion that Cazden even includes or utilizes a processor. Applicants respectfully object to their Examiner's official notice that a processor would inherently exist. Cazden does not provide a disclosure of the circuitry of sensor (32, 163), beyond that of battery (38), conductors (44), transmitter circuit (72), conductors (68a, 68b), and switches (66a, 66b, 171), etc., which apparently only function to provide an input signal to the transmitter indicating either low-water or high-water. As known to those skilled in the art, not all electrical circuits require a processor, especially where mechanically and/or magnetic actuated circuit opening/closing on-off type switches are utilized. Even if the Examiner were to consider the existence of a processor to be inherent, which Applicants contend it is not, Cazden certainly does not set forth the claimed circuit construction ("power input of the transmitter is connected to an output of the processor so that..."). This is a significant structural difference not taught or disclosed by Cazden. Thus, dependent Claims 39, 50, and 52 have been shown to be nonobvious and independently patentable over Cazden.

Regarding dependent Claims 40, 43, and 46, as a minimum, Cazden does not disclose, teach, or suggest either the required circuit configuration or method steps for informing a processor if low battery voltage is detected, or delaying a transmitter from sending the low battery voltage indication until the processor detects low water, and/or encoding the low battery voltage indication into the digitally encoded low water signal being sent by the transmitter, as at least in part featured in Claims 40, 53, and 56. Applicants respectfully submit that the disclosure of the ability to replace the battery (38) (Cazden, col. 4, lines 1-8) referenced by the Examiner, or that a device uses a battery (38), cannot in any way disclose, teach, suggest or otherwise render obvious to one of ordinary skill in the art, the specific circuit configuration, the low-battery detection step, and/or post-low battery detection processing step(s), as featured in Claims 40, 43,

and 46, even if Cazden was modified to include a low battery indicator, as suggested by the Examiner. Accordingly, neither of these claims are rendered obvious in view of Cazden.

Regarding Claim 46, as a minimum, Cazden does not disclose, teach, or suggest, or set forth a disclosure with respect to a tilt switch such as, for example, Applicants' tilt switch (46), as featured in Claim 46. Although the Examiner indicates that upper switch (171) would be considered a tilt switch, Applicants respectfully submit that this cannot be true. Switch (171) is clearly disclosed as being a magnetically actuated reed switch (171). Cazden, col. 7, lines 1-2. The claimed tilt switch, as known to those skilled in the art, does not use magnetic principles to function, but rather, gravitational principles. Applicant has amended Claim 46 to clarify this point. Thus, dependent Claim 46 has been shown to be nonobvious and independently patentable over Cazden.

Regarding dependent Claims 48 and 49 (and Independent Claim 55), as a minimum, Cazden does not disclose, teach, or suggest, or set forth a disclosure with respect to providing a digitally encoded low water signal as featured in dependent Claim 48, and as additionally featured in dependent Claim 49 and Independent Claim 55. Rather, it is Applicants' opinion that one skilled in the art would understand Cazden to be teaching use of an analog signal transmission. Nothing is mentioned of any form of digital encoding. This is important structural difference not taught or suggested by Cazden. Thus, dependent Claims 48 and 49 (and Independent Claims 55) has been shown to be nonobvious and independently patentable over Cazden.

Regarding dependent Claim 52, as a minimum, Cazden does not disclose, teach, or suggest, or set forth a disclosure with respect to supplying power to a transmitter from an output of a processor only during each duty cycle of the processor, as additionally featured in dependent Claim 52. As noted above, there is no suggestion that Cazden even utilizes a processor, much less providing such circuit logic structural configuration. This is important structural difference not taught or suggested by Cazden. Thus, dependent Claim 52 has been shown to be nonobvious and independently patentable over Cazden.

Claims 32-36, 47, and 51 are not Obvious over Cazden in view of Martin

The Examiner rejected Claims 32-36, 47, and 51 under 35 U.S.C. §103(a) as being unpatentable over Cazden in view of Martin. Of these, Claim 32 is independent. Applicants respectfully submit that Cazden in view of Martin fails to disclose, teach, or suggest all substantial elements of any of the claimed embodiments of the invention.

Cazden was described in detail, above. Martin discloses a nightlight (1) for a toilet seat (3) which includes a mercury switch which turns on/off a toilet seat light (6) upon raising/lowering the toilet seat (3). The inherent problem solved by Martin appears to be the desire to provide males the ability to prevent bathroom incidents due to low illumination at nighttime. Martin has nothing to do with controlling a liquid level, i.e., the water level of the toilet, etc., to the point of being non-analogies art, making Martin and improper reference. Nevertheless, even if there was motivation to combine Cazden and Martin, and even if such combination had a reasonable chance of success, which Applicants contend it does not, the combination does not teach each significant claim element.

The Examiner acknowledged in para. 6 of the Office Action that Cazden does not disclose a tilt switch, as claimed. Magnetic reed switches (171) are not recognized by one skilled in the art as being gravity actuated-type tilt switches. The Examiner, however, cited Martin as disclosing "a tilt switch for turning on/off an electric device upon tilting the device via a toilet seat." Martin does not utilize a processor, and therefore, cannot teach interrupting power to such non-disclosed processor. Thus, Martin cannot and does not teach or suggest a tilt switch connected *between* a power source and a *processor* for supplying power to the processor, as featured in Claim 32. Further, even if one were to somehow equate the Martin tilt switch with the equivalent of Applicants' tilt switch, it is also not described as being enclosed in a housing *with* a processor, as featured in the claim. Thus, Martin does not teach or suggest a tilt switch...for supplying power to the processor while in an on position...and movable between the on and off position by tilting the housing, as featured in Claim 32. Nor does Cazden teach connecting any of its switches in a manner that would control power to a processor, which Applicants contends it does not have. Further, replacement of one of the reed switches (171) with a Martin mercury switch, would render the Cazden device ineffective. Accordingly, at least for all of these reasons, Cazden in view of Martin simply does not teach the same structural

configuration as that featured in the claim. Thus, Independent Claim 32 has been shown to be novel, nonobvious and patentable over Cazden in view of Martin.

The dependent Claims 33-36, 47, and 41, have therefore also been shown to be allowable because their corresponding independent claim has been shown to be novel and non-obvious. Nevertheless, the dependent claims include independent novelty and are nonobvious.

For example, regarding Claim 33, neither Cazden nor Martin, alone or in combination, disclose, teach, or suggest a tilt switch that is in an off position when the housing is inverted from an operational position. Even if the Martin tilt switch were inside a housing with a processor, which it is not, the tilted position is not an inversion from an operational position. Thus, it does not have the same structure or perform the same function as Applicants' claimed tilt switch.

Regarding Claim 34, neither Cazden nor Martin, alone or in combination, disclose, teach, or suggest that the Cazden water level sensor (32) has a wave filter *timer* that turns on for a selected interval *when* a processor (which is not disclosed in Cazden) detects a low water condition, or that it includes any electronic components, much less a processor, adapted to delay the transmitter (72) from sending a low water signal until the end of the selected interval, or adapted to cause the transmitter (72) to send the low water signal at the end of the selected interval only if the processor (which is not disclosed in Cazden) detects low water during substantially the entire featured selected interval. Such features, which are a direct contradiction of the teachings of Cazden, would not be inherent or be inherently obvious to one having ordinary skill in the art, especially in light of the fact that Cazden specifically states that "[e]lectrical switch activation *results* [apparently immediately] in transmission of a signal from the electrical contact switches 66a, 66b, through the electrical connectors 68 to the transmitter circuit 72 [after which a]...signal... is *then* [apparently immediately] transmitted...." *See* Cazden, col. 5, lines 4-7 (emphasis added). Delaying transmission for a selected interval is a significant power saving feature not disclosed, taught, or suggested, except in the Applicants' disclosure and claims.

Regarding Claim 35, neither Cazden nor Martin, alone or in combination, disclose, teach, or suggest an electrical configuration such that a power input of the transmitter is connected to an output of processor so that the transmitter is supplied with power momentarily during each duty

cycle of processor when the processor directs the transmitter to send the low water signal. As shown in Cazden FIG. 5, the power input of the transmitter (72) appears to be from the battery (38) or at least *not* from the output of any processor.

Regarding Claim 36, neither Cazden nor Martin, alone or in combination, disclose, teach, or suggest a processor, or even the ability to detect a low battery, much less a processor adapted to delay the transmitter from sending a low battery voltage indication *until* the processor detects low water, or to encode the low battery voltage indication into the low water signal when sent by the transmitter, as featured in the claim. Cazden nor Martin simply do not disclose, teach, or suggest such features.

Regarding Claims 47 and 51, the claims are independently patentable for the reasons provided, for example, with respect to Claims 32 and 33.

Claims 42, 43, 45 and 54 are not Anticipated or Rendered Obvious by Maxhimer

The Examiner rejected Claims 42, 43, 45 and 54 under 35 U.S.C. §102(b) as being anticipated by Maxhimer, US Patent No. 4,445,238 (hereinafter "Maxhimer"). Of these, Claims 42 and 45 are independent. Applicants respectfully submit that Maxhimer fails to disclose, teach, or suggest or set forth all substantial elements of any of the claimed embodiments of the invention.

As noted previously, Maxhimer discloses a *float*-operated swimming pool water level control apparatus which uses a "wired" rather than "wireless" solution to its problem. Particularly, Maxhimer discloses a water level detection means (control apparatus (20) and cylinder (32)), disposed remotely from the swimming pool (4), contrary to the teachings of Applicants. Maxhimer, col. 3, lines 40-41. The cylinder (32) includes a means, e.g., float (38), to sever an optical pathway between an LED (30) and a corresponding photodetector (34) in order to detect when the water level is less than the preferred water level. Maxhimer, col. 3, lines 36-39, and col. 4, lines 63-68. The cylinder (32) is provided water through a tube (18) extending from gutter (6) and through the outer wall surrounding gutter (6) and the surrounding soil (2). *See* Maxhimer, col. 3, lines 42-53, and FIG. 2.

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference, whereby the identical

invention must be shown in as complete detail as is contained in the claim. *See* MPEP § 2131. Maxhimer does not set forth each and every element featured in Claims 42, 43, 45 and 54.

For example, as a minimum, Maxhimer does not disclose, teach, or suggest, or set forth either a wireless transmitter or a receiver as would be understood by one skilled in the art reading Claims 42, 43, 45, and 54. Referring to Application, page 2, lines 18-22, a "transmitter" is a device that "sends a radio frequency signal" and a "receiver" is a device that "receives the signal from the transmitter." Maxhimer teaches no such structure. Nor does Maxhimer include a "processor" in its circuit configuration, as featured in Independent Claims 42 and 45. *See* Maxhimer FIG. 1. These are important features in Independent Claims 42 and 45 and not set forth in Maxhimer.

Still further, regarding Independent Claim 42, Maxhimer does not disclose that timer (72) which the Examiner equates with an "overfill counter" in a "receiver" capable of "reset[ing] *prior* to reaching the selected count each time that the receiver receives *subsequent* low water signals from the transmitter." It is only after reaching its maximum time period that the Maxhimer timer (72) will reset. *See* Maxhimer, col. 5, lines 54-58. Also, referring to Maxhimer, col. 5, lines 48-68, a "subsequent" low water signal is not possible according to Maxhimer's disclosed configuration. That is, referring to Maxhimer, FIG. 1, Maxhimer's "low water signal" is continuous due to removal of the float (38) from between LED (30) and photodetector (34) (which is not a problem in a "wired" solution, but a significant one in a "wireless" solution), thus negating the ability to provide a "subsequent" low water signal. Even if the signal were momentary, no subsequent low water signal would be possible as the pool would continue to fill after float 38 has again broke the connection. *See* Maxhimer, col. 5, lines 54-58. Under normal operations, *only* after the timer (72) completed its duty cycle could the pool encounter a low water condition. Thus, provision of a "subsequent" low water signal would not be provided to cause a reset of the Maxhimer overfill counter *prior* to reaching the selected count. *Id.*

Still further, regarding Independent Claim 45, Maxhimer does not disclose, teach, or suggest, or set forth a process whereby *if* a processor, or any other circuit element, for that matter, detects low water in the pool for a *preselected time [delay] period*, the process includes causing a transmitter to send a momentary signal indicating low water level. Transmission is

instead, substantially instantaneous, in response to the establishment of an optical connection between LED (30) and photodetector (34). *See* Maxhimer, col. 4, lines 46-51.

Thus, Independent Claims 42 and 45, along with their respective dependent claims, including dependent Claims 43 and 54, are not anticipated by Maxhimer. The dependent claims also include independent novelty and are nonobvious.

For example, regarding Claim 43, Maxhimer does not disclose, teach, or suggest, or set forth a circuit configuration whereby a power input of a transmitter is connected to an output of a processor so that the transmitter is supplied with power only when the processor directs the transmitter to send a low water signal. *See* Maxhimer, FIG. 1. Maxhimer, simply does not need such energy conserving configuration as it apparently has continuous access to AC power through power supply (22), and therefore, does not provide such teaching.

Regarding Claim 54, this claim is not anticipated for the reasons provided with respect to Claim 42, i.e., Maxhimer does not disclose resetting its timer (72) *prior* to reaching a selected count, etc.

Claim 44 is not Obvious over Maxhimer in view of Mogab

The Examiner rejected Claims 44 under 35 U.S.C. §103(a) as being unpatentable over Maxhimer in view of Mogab. Maxhimer and Mogab were described, above.

The Applicants respectfully submit that even if there were some motivation to combine reference teachings, which Applicants contend there is not, there would be no likelihood of success that the combination would even properly function without extreme modification to the Maxhimer circuit design. That is, Applicants respectfully submit that one skilled in the art would not be motivated to replace the Maxhimer power supply (22) with a battery without a complete redesign of the circuit configuration. Power supply (22) must supply 18 VDC, ±15 VDC, and 25 VAC. Clearly, extensive modification would be necessary. Further, even if it were somehow shown that there was motivation to replace power supply (22) with a battery, and to add a low battery indicator, nothing is disclosed, taught, or suggested in either of the references or in the combination, itself, with respect to a structure including a means for *encoding* a low battery voltage indication into a low water *signal* being sent by a transmitter, as featured in the claim, and which is not a well-known feature of a battery or of a low battery

indicator. Applicants have reviewed the references and have been unable to find any disclosure, thereof, explicitly or inherently, or in the knowledge of one skilled in the art. Correspondingly, Claim 44 has been shown to be not obvious over Maxhimer in view of Mogab.

Summary

Accordingly, 38-40, 45, 46, 48-50, 52, 53, 55, and 56 have been shown to be patentable over Cazden; Claims 32-36, 47, and 51 have been shown to be patentable over Cazden in view of Martin; Claims 42, 43, 45 and 54 have been shown to be not anticipated by Maxhimer; and Claim 44 has been shown to be patentable over Maxhimer in view of Mogab. Thus, each of the rejected Claims 32-36, 38-40, and 42-56, have been shown to define over the cited documents. Accordingly, reconsideration is respectfully requested.

In commenting upon the references and in order to facilitate a better understanding of the differences that are expressed in the claims, certain details of distinction between the cited documents and the claimed embodiments of the invention have been mentioned, even though such differences do not appear in all of the claims. It is not intended by mentioning any such unclaimed distinctions to create any implied limitations in the claims. Not all of the distinctions between the cited documents and Applicants' claimed embodiments of the invention have been made by Applicants. For the foregoing reasons, Applicants reserve the right to submit additional evidence showing the distinctions between Applicants claimed embodiments to be nonobvious in view of the cited references.

The foregoing remarks, made without prejudice as to patentability, including the doctrine of equivalents, are intended to assist the Examiner in re-examining the application and in the course of explanation may employ shortened or more specific or variant descriptions of some of the claim language. Such descriptions are not intended to limit the scope of the claims; the actual claim language should be considered in each case. Furthermore, the remarks are not to be considered to be exhaustive of the facets of the claimed embodiments of the invention that render it patentable, being only examples of certain advantageous features and differences that Applicants' attorney chooses to mention at this time.

CONCLUSION

In view of the amendments and remarks set forth herein, Applicants respectfully submit that the application is in condition for allowance. Accordingly, the issuance of a Notice of Allowability in due course is respectfully requested. It is also respectfully requested that if the Examiner maintains the rejection of any of the claims, the undersigned requests a telephone conference with the Examiner to discuss any remaining issues.

Respectfully submitted,

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